PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants:	Jean Dolbec et al.
Application No.	10/522,201
Filed:	February 16, 2006
Title:	AUTOMATIC DETECTION AND RESOLUTION OF FIBER CABLING ERRORS IN OPTICAL NETWORKS
Art Unit:	2456
Examiner:	Tom Y. Chang
Confirmation No.:	3744

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APPEAL BRIEF UNDER 37 C.F.R. §41.37

Sir:

As set forth in the Notice of Appeal dated November 9, 2009, Appellants hereby appeal the final decision of the Examiner in the above-identified application rejecting Claims 1-11 and 20.

The fee under 37 CFR 41.20(b)(2) in the amount of $540.00 may be charged to deposit account No. 50-1047. In addition, any deficiencies may be charged to deposit account No. 50-1047.

Appellants respectfully request that the Board of Patent Appeals and Interferences reverse the Examiner's rejection of the claimed subject matter.

I. REAL PARTY IN INTEREST

Meriton Networks Inc. is the assignee of the present invention and the real party in interest.

II. RELATED APPEALS AND INTERFERENCES

No prior and pending appeals, judicial proceedings or interferences are known to the appellant which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

The presently pending claims are Claims 1-11 and 20. Claims 12-19 and 21-23 have been previously cancelled.

Claims 1-11 and 20 are on appeal. A copy of appealed Claims 1-11 and 20 is provided in the attached Appendix.

Appellant hereby appeals the final decision of the Examiner in the above-identified application rejecting Claims 1-11 and 20.

IV. STATUS OF AMENDMENTS

A final Office Action was mailed on July 7, 2009, rejecting Claims 1-11 and 20-23. In the final Office Action, the following rejections were made: Claims 1-11 and 20-23 were rejected under 35 U.S.C. 103(a) as being unpatentable over Doshi et al., U.S. Patent no. 6,130,875 and further in view of Henderson et al., U.S. Patent No. 6,058,103. Appellant responded to the final Office Action with an Amendment and Response to Final Office Action dated October 7, 2009. The Examiner responded with an Advisory Action dated October 22, 2009 in which he entered Appellant's Amendment and Response to Final Office Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

The invention is adequately described in claim 1 as the only independent claim on appeal. Claim 1 is directed to a method of automatically detecting fiber cabling errors in an optical network. The method includes detecting current fiber connectivity between optical nodes in the

network and storing information regarding the current fiber link connectivity. See page 5, lines 3-14. Additionally, any cabling changes are detected. See Automatic Cabling Change Detection (ACCD) in FIG. 2 and page 7, lines 16-19 and page 9, line 25- page 10, lines 1-3. The impact is determined of the cabling changes on service through the network, including impacts on cross-connects and lightpaths. See Cabling Change Impact Resolution (CCIR) in FIG. 2, page 5, line 25- page 6, line 2 and page 7, lines 19-23. The impact of the cable changes on the service, including the impacts on cross-connects and lightpaths, is displayed. See page 10, line 21- page 11, line 6.

VI. GROUNDS OF REJECTION TO BE REVIEWED UPON APPEAL

The following grounds of rejection are presented for review:

Whether or not Claims 1-11 and 20 are unpatentable under 35 U.S.C.103(a) based on Doshi et al. in view of Henderson et al.

VII. ARGUMENT

A. Rejection under 35 U.S.C. 103(a) over Doshi et al in view of Henderson et al.

Claims 1-11 and 20 are rejected under 103(a) as being anticipated by Doshi et al. (US 6,130,875, "Doshi") in view of Henderson et al. (US 6,058,103, "Henderson"). It is respectfully submitted that this rejection is clearly erroneous.

The Examiner asserts in the Final Action that Henderson shows the claimed step of determining the impact of the cabling changes on service through the network, including impacts on cross-connects and lightpaths. As support for this assertion the Examiner points to column 7, lines 53-56 of Henderson, which states:

> The nsGeoLink class 212 and the nsGeoNode class 214 handle graphical rendering of communications links and communications equipments for presentation on, for example, a geographical map.

Thus, Henderson simply discusses communications links. The Examiner further asserts on page 7 of the Final Action, however, that "Henderson teaches determining the connectivity of

paths between endpoints in a network. Since the network uses optical media the paths are correctly construed as lightpaths." Applicants respectfully disagree.

In particular, not all paths through optical media are a lightpath. Rather, it is well known that a lightpath refers to a point to point connection with an effective guaranteed bandwidth (see, for example, Bill St. Arnaud, "User controlled Lightpaths Definition Document", copy enclosed and available at http://www.canarie.ca/canet4/library/c4design/user_controlled_definition.ppt). A lightpath can be realized by allocating a wavelength on each link on the path between two end nodes. The wavelengths used on the various links may be the same or different. However, the same wavelength cannot be assigned to two different lightpaths on the same link. (see, e.g., R. Ramaswami et al. Optical Networks: A Practical Perspective, Academic Press, London, 1998, page 333), copy enclosed.

In contrast to a lightpath, a communication link is generally understood to be a connection between adjacent nodes. Thus, when an end-to-end connection or path traverses multiple nodes, the path between them will comprise multiple communication links. A communication link is thus in general only part of an end-to-end path. Moreover, as noted above, not all paths constitute a lightpath. Rather, a lightpath may be construed as a very particular type of path. Accordingly, simply because Henderson refers broadly to the rendition of communication links over an optical medium does not mean that Henderson discloses the more particular step of rendering lightpaths, let along the determination of the impact caused by cable changes on lightpaths. In fact, Henderson does not even specifically discuss lightpaths.

In the Advisory Action the Examiner asserts that the Applicant is suggesting that a strict interpretation of a lightpath must be used. The Examiner, on the other hand, asserts that since the specification does not define the term "lightpath," he is applying the broadest reasonable interpretation. However, the Examiner appears to be ignoring the requirement of MPEP 2111, which states that "The Patent and Trademark Office ("PTO") determines the scope of claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction "in light of the specification as it would be interpreted by one of ordinary skill in the art [emphasis added]." *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364[, 70 USPQ2d 1827] (Fed. Cir. 2004). To emphasize this point, this same section of the MPEP also states that "The broadest reasonable interpretation of the claims must also be

consistent with the interpretation that those skilled in the art would reach. *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d 1464, 1468 (Fed. Cir. 1999)."

In the present case the Examiner asserts that the person of ordinary skill is clearly sophisticated enough to apply Doshi with Henderson to allegedly arrive at the features of the claimed invention. However, Applicant respectfully submits that the Examiner is not applying a uniform standard since a person who is sophisticated enough to understand and combine the cited references would certainly appreciate that the term "lightpath" has a well-defined meaning in the industry. Furthermore, as noted above, the interpretation of the term "lightpath" used by the Examiner is inconsistent with the interpretation used by one of ordinary skill.

The Examiner states in the Advisory Action that "The fact that the applicant provided a submission of non-patent literature… as a means to support the applicant's arguments further supports that the definition is not anywhere in the disclosure of the invention." Applicant agrees with this statement; the specification does not define the term "lightpath." However, there is no requirement that the specification define terms that are well known to the person of ordinary skill in the art (POSA). Indeed, why would applicant need to include a definition of a term that well known to the POSA? Without an express definition of the term in the specification, the Examiner is compelled to follow the mandate of MPEP 2111 and give the term "lightpath" the broadest reasonable interpretation that is consistent with the interpretation that those skilled in the art would reach.

In addition to non-patent references, as a perusal of the patent literature shows, the term "lightpath" is used in many patents and patent applications and, from a small sampling examined by the Applicant, very few of them seem to expressly define the term. Moreover, the one reference (from among those few examined by Applicant) in which a definition was presented, provided a definition consistent with that presented above (U.S. Publication No. 20090196603, paragraph 2), which is clearly different from the interpretation offered by the Examiner.

In summary, the Examiner's construction of the term lightpath to mean any communication path traveled by light, while perhaps intuitively appealing from a lay person's perspective, simply does not comport to the definition of the term as it is used by a person of ordinary skill in the art.

Reconsideration and withdrawal of the Examiner's rejection of claims 1-11 and 20 are respectfully requested.

Conclusion

In view of the above, it is respectfully submitted that reversal of the rejection of record is in order.

Respectfully submitted,

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VIII. Claims Appendix

IN THE CLAIMS:

1. A method of automatically detecting fiber cabling errors in an optical network comprising:

detecting current fiber connectivity between optical nodes in the network;

storing information regarding the current fiber link connectivity;

detecting any cabling changes; and

determining the impact of the cabling changes on service through the network including impacts on cross-connects and lightpaths; and

displaying the impact of the cable changes on the service including the impacts on cross-connects and lightpaths.

2. The method as defined in claim 1 wherein the step of determining impact on services supports the step of directing operator resolution of errors caused by the cabling changes.

3. The method as defined in claim 2 implemented by an element management system (EMS) within a node.

4. The method as defined in claim 2 implemented within a network management system (NMS).

5. The method as defined in claim 2 implemented with an operations support system (OSS).

6. The method as defined in claim 2 implemented in a combination of EMS, NMS and OSS.

7. The method as defined in claim 1 wherein current fiber connectivity and any cabling changes are displayed on a graphical user interface (GUI).

8. The method as defined in claim 7 wherein the GUI displays a correlation between optical

nodes in the network and fiber connectivity.

9. The method as defined in claim 7 wherein the GUI displays cross-connection impacted by a cabling change.

10. The method as defined in claim 7 wherein the GUI displays lightpaths impacted by a cabling change.

11. The method as defined in claim 7 wherein any cabling change must be approved by an operator before initiation of the change.

20. The method of claim 1 wherein impact determining step includes determining if lightpaths have been automatically rerouted off affected optical links.

IX. Evidence Appendix

Bill St. Arnaud, "User controlled Lightpaths Definition Document", and available at http://www.canarie.ca/canet4/library/c4design/user_controlled_definition.ppt).

R. Ramaswami et al. Optical Networks: A Practical Perspective, Academic Press, London, 1998, page 333).

X. Related Proceedings Appendix

None.